HUMAN RESOURCE MANAGEMENT IN BUSINESS ORGANIZATIONS UNDER EXPONENTIAL GROWTH CONDITIONS

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Abstract: The current article explores the image of success in the contemporary business environment, embedded in organizational settings as the "exponential organizations". The essence of exponential human resource management is outlined based on critical review of the continuum of revolutions (evolution) in this functional sphere in business organizations. Strong attention is paid to human resource management practices, adopted by these companies, smoothly operating under the conditions of exponential growth.

Keywords: human resource management, exponential organizations, business organizations, organizational culture, startups.

JEL: J24, M12, M13, M14

INTRODUCTION

The influence of continuous change in volatile, uncertain, ambiguous business environment on company performance is already recognized (Ulrich, 1998), but the speed of this change increases in great rates, implying an emergence of unhealthy condition, i.e. the "high-metabolism world", expressed in terms of shortening the development cycle of products and services, curtailing the life-cycle of companies and entire industries (Ismail, Malone, van Geest and Diamandis, 2014), driven by the information-based paradigm and continuous disruptive innovations. Such acceleration is observed in many industires not only in the developed economies, but also in developing regions and on emerging markets, strictly keeping up with the concept of 6D technology development phases (i.e. digitized, deceptive, disruptive, dematerialized, demonetized and democratized) (Ismail, Malone, van Geest and Diamandis, 2014, a forward by Diamandis). Under such conditions the contemporary leaders are forced to design quick, adept, technologically smart and innovative organizations, successfully competing and scaling their activities, harnessing the creative power not only of employee teams, but also of billions of people in vast social networks which brings in the limelight the search of appropriate approaches, methods and practices in the sphere of human resource management (HRM).

That is why the "exponential organization", described in a book by Ismail, Malone, van Geest and Diamandis (2014), is defined as a research object. The subject of research

encompasses the exploration of key HRM attributes with great potential to contribute to the successful development of exponential organizations. The main aim of the current article is to outline the array of HRM practices, applied in companies, characterized by accelerating growth. This is achieved by means of critically reviewing the book by Ismail, Malone, van Geest and Diamandis (2014). The aim is decomposed to three tasks, as follows:

- Disclosing important specifics of highly succeeding organizations.
- Studying the evolution of HRM and
- Outlining the peculiarities of HRM, applied in highly succeeding organizations.

1. Important characteristics of contemporary business successes in business organizations

The greatest contemporary business successes are achieved by a special type of information organizations, i.e. the exponential organizations. According to the only definition for an exponential organization (applied abbreviation - ExO) that exists it is "*one whose impact (or output) is disproportionally large - at least 10x larger - compared to its peers because of the use of new organizational techniques that leverage accelerating technologies*" (Ismail, Malone, van Geest and Diamandis, 2014). The posed requirement for becoming an exponential organization in this definition is based on a quotation of a contemporary marketing rule by Michiel Muller – a founder of several companies that were successful and highly disruptive in their markets, stating that "it takes a 9x improvement to move people from incumbent products to new products from startups" (Ismail, Malone, van Geest and Diamandis, 2014). Thus, a certain threshold measure for the achievement of business success by an exponential organization is determined.

Furthermore, such organizations are remarkable for producing information-enabled products or delivering information-enabled services, initially supplying an innovative minimum viable product (abbreviation: MVP) or service to customers, hiring small numbers of personnel, possessing small or no production facilities, being able quickly to move a new product from invention to market, creatively restructuring the strategic canvas of their stakeholders, being able to transfer major business functions outside the organization to trustworthy constituencies (users, fans, partners, general public, etc.), functioning under the sway of the Law of accelerating returns (i.e. observed unstopping doubling pattern of "price/performance" almost annually in "any domain, discipline, technology or industry", since it becomes "information enabled and powered by information flows", formulated by Ray Kurzweil), achieving super-accelerated (exponential) firm growth, not allowing the scale of the organizational business to outpace the implemented business model, because the information technologies are embedded in the exponential organizations, digitalizing their physical system components (see figure 1).

The contemporary succeeding business organizations may be classified, as follows (Ismail, Malone, van Geest and Diamandis, 2014):

- entirely created as exponential ones,
- entirely or partially transformed already existing companies, desperately struggling for their survival and development under the conditions of highly increasing market

competitiveness, accelerating technological innovation (artificial intelligence, robotics, biotech and bioinformatics, medicine, neuroscience, data science, 3D printing, nanotechnology and energy) and strong management desires to internationalize business activities without bearing the excessive burden of huge investments, and increasing managerial complexity due to intended company presence all over the world.
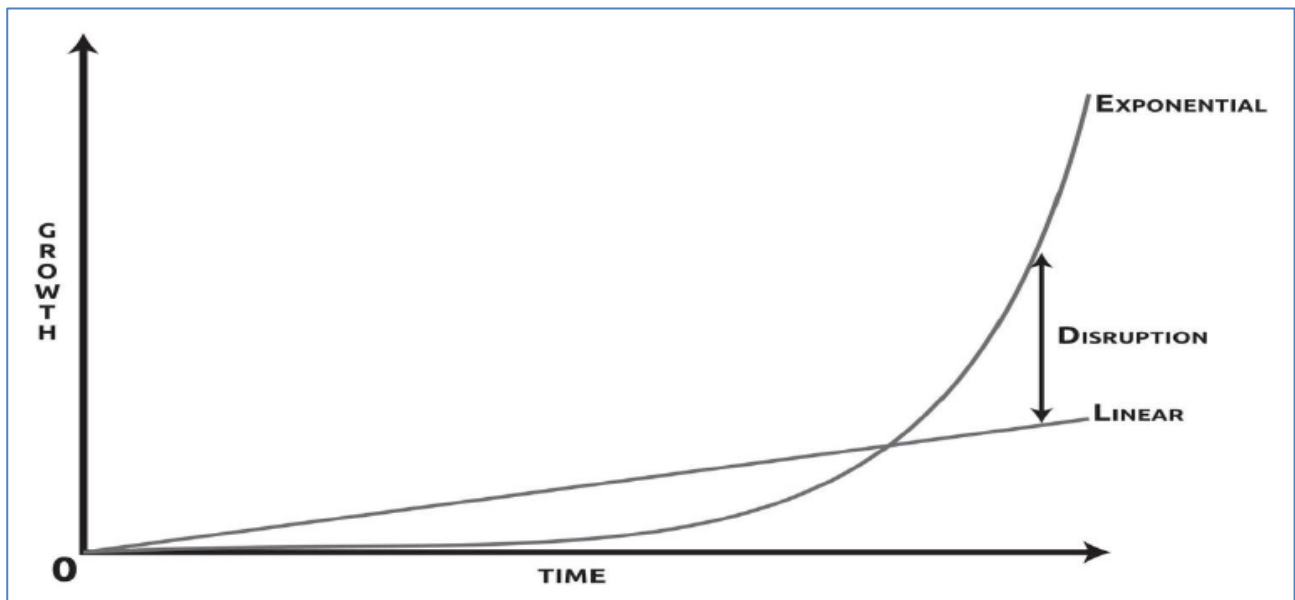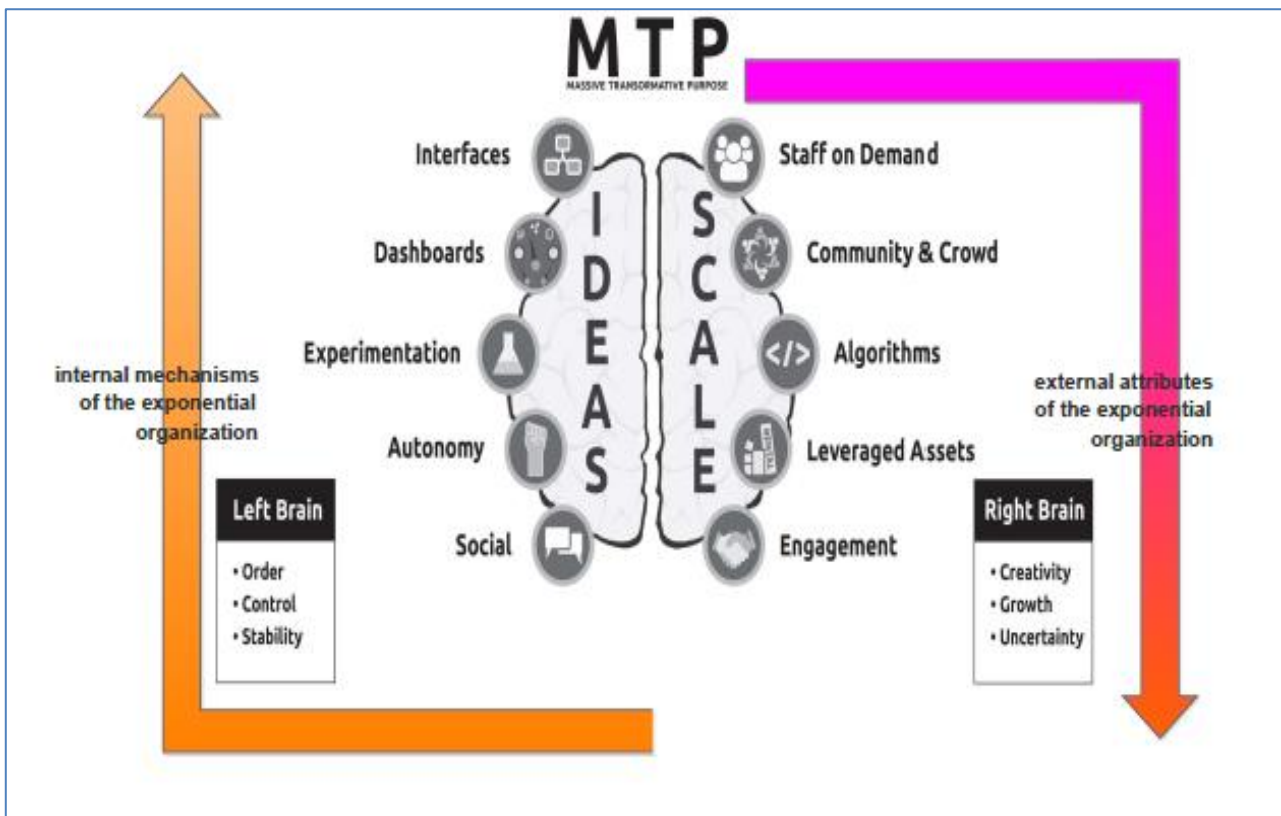

Source: Ismail, Malone, van Geest and Diamandis (2014).

Figure 1. Comparing linear versus exponential growth rates

Another minimum requirement for an organization to be defined as an exponential entity is its possession of at least four of a set of eleven characteristics (i.e. "common traits") that accelerate it away from its competitors as the authors supply with empirical results from research that encompassed the top one hundred fastest growing startups worldwide for the period 2008-2014 (Ismail, Malone, van Geest and Diamandis, 2014). The first one (massive transformative purpose, an abbreviation of MTP) is considered basic and is applied as a means of establishing company's desired, professed culture. The other ten characteristics form two groups. The applied categorization is based on two criteria, set by the researchers, as follows (see figure 2):

- an analogy with human brain to outline their potential impacts on different firm's management spheres,

- their orientation inside the company (so called "internal attributes or mechanisms", applied abbreviation IDEAS) or outside it (so called "externalities or external attributes", applied abbreviation SCALE).

Adapted from: Ismail, Malone, van Geest and Diamandis (2014).

Figure 2. The characteristics of the exponential organization

Certain details exist that have to be reviewed in concern with the aforementioned exponential characteristics of the company, as follows (Ismail, Malone, van Geest and Diamandis, 2014):

- a *Massive Transformative Purpose* (applying the abbreviation MTP) represent the intersection among leadership's high quality daring business dreaming, radical transformation and rapid (coherent, exponential) growth, realized by design, implementation and iterations of respective strategy (see table 1). At its base the MTP provides answers to two key questions: "Why do this work?" and "Why does the organization exist?" (see table 2). It represents a main professed culture attribute of the exponential organization, characterized by (Ismail, Malone, van Geest and Diamandis, 2014): (a) shortness, (b) simplicity, (c) expressed (collective) high aspirations and generalizations, intended to seize the hearts, minds, imaginations and ambitions of all the constituencies and especially those outside the company, (d) not disclosing what the respective organization performs (no technological specificity, no narrowness), (e) an officially expressed company intention "to accomplish near-miracles", (f) availability of distinction between MTP (it is more inspirational, aspirational and tranformative) and the company mission (it is more massive), (g) inevitable and timely generation of a cultural (a larger, virtuous) movement in the company and around it (a community). The last one comparatively soon and spontaneously starts its own life, independent from the company, thus creating in its turn "own community, tribe and culture", (h) concentrating the

attention of working team members to the external impact of their contributions (deliverables) and needed collaboration, enabling agility and learning, at the expense of internal (office) politics, (i) outlining the bravest and most ambitious desires of a competitor, present on a given market, thus being appropriate only for "first movers", (j) great potential to attract and retain not only talent, but also other constituencies (customers, developers, startups, hackers, NGOs, governments, suppliers, partners, etc.) to (in) the company, (k) incarnating a stabilizing force during periods of random growth, (l) potential convergence in its essence to aspirational brands, (m) uniqueness, (n) deep involvement of company leadership, (o) potential convergence in its meaning with the social enterprise, (p) receiving a specific realization in small markets in the form of organizational mantra (Dollar Shave Club → "A dollar a month."), (q) potential incorporation into stock portfolio strategies by shareholders, (r) not defined as a business decision, rather a passion to pursue (see table 2).

Table 1. Examples of Massive transformative purpose, developed by exponential organizations

Exponential organization	An applied MTP
TED	"Ideas worth spreading."
Google	"Organize the world's information."
X Prize Foundation	"Bring about radical breakthroughs for the benefit of humanity."
Quirky	"Make invention accessible."
Singularity University	"Positively impact one billion people."
Source: Ismail, Malone, van Geest and Diamandis (2014), chapter 3.	

Table 2. The problematic approach in formulating the MTP of an exponential organization

Types of questions	Description
Key questions	"Why do this work?"
	"Why does the organization exist?"
Pursueing your passion	What makes you come alive and go do it?
	What do I really care about?
	What am I meant to do?
	What would I do if I could never fail?
	What would I do if I received a billion dollars today?
Source: Ismail, Malone, van Geest and Diamandis (2014).	

- *Staff on Demand (SoD)* – it means leveraging personnel outside the company (i.e. external and temporary workforces), enhancing its speed, learning, functionality, flexibility and agility in fast and continuously changing business world where the life-time of a skill is expected to be less than five years. In such situation it seems that company managers refuse to engage heavily in employee training and development, thus forcing the working individuals to turn seriously to career self-

management practices in order to fill emerging expertise gaps. Of course the importance of maintaining permanent staff is still expected to be higher in certain equipment- and capital- intensive industries (shipping, mining, construction or even operation of atomic power stations). On the contrary, in any information-enabled businesses the cost of finding and tracking outside staff drops almost to zero. The increase on Internet usage provides the exponential organization with greater pool of high-qualified talented freelancers who calmly accept the alternative of contributing to (and receiving compensation from) multiple projects. By utilizing this human potential from outside the company the managers may boost and accelerate its ideation process through conducting numerous contests for SoD. Finally, design and implementation of appropriate interfaces to manage SoD and formulating clear task specifications for the outsourced tasks represent the greatest challenges for the managers here (Ismail, Malone, van Geest and Diamandis, 2014). The management attitude to SoD cannot be characterized as exploitation.

- *Community & Crowd* – it is viewed both as a transaction and peer-to-peer engagement between the company and a certain constituency. It is widely considered that the availability of strong leadership to the community ensures the timely fulfilment of responsibilities and serious accepting of accountability by the respective members for expected and demonstrated performances. The community is viewed as an extention of the company itself, built gradually by wise use of own or shared MTP to attract and engage early members, nurturing it further (daily communicating with its members) and creating a platform to automate peer-to-peer engagement by providing opportunities of mutual reviews and ratings. Community and crowd are leveraged by exponential companies for the pupose of performing a number of traditional internal organizational functions as idea generation, funding, design, distribution, marketing and sales. In its turn the crowd is defined as "concentric rings of people outside the core community", greatly outnumbering the community, and being harder to reach. A strong distinction between SoD and Crowd may be outlined – the first one is managed by executives, employed for accomplishing a particular task through an electronic platform. Crowd is marked out as pull-based, i.e. the exponential company is trying to harness creativity, innovation, validation and even funding (i.e. crowdfunding) from the outside when it opens up publicly in the virtual realm an idea, funding opportunity or incentive prize and it is people's initiative to find and react to the disseminated offer. It is accepted that community & crowd contributes to increases in loyalty to the organization, catalyses the exponential growth, serves to validate new ideas and learning, allows agility and rapid implementation of newness, amplifies ideation processes. Its effectiveness and efficiency depends on the chosen MTP, achieved degree of member engagement, the initiatives of authentic and transparent leadership, setting a low threshold to participate in it and the availability of greater P2P value creation (Ismail, Malone, van Geest and Diamandis, 2014). In fact a creative classification of company stakeholders for the exponential organizations is proposed here, but other approaches to mapping constituencies cannot be ignored too because these still

provide a richer canvas of what is going on in and around the entity for the purpose of early detecting the signals, generated by emerging radical changes and disruptive innovations (see figure 3).
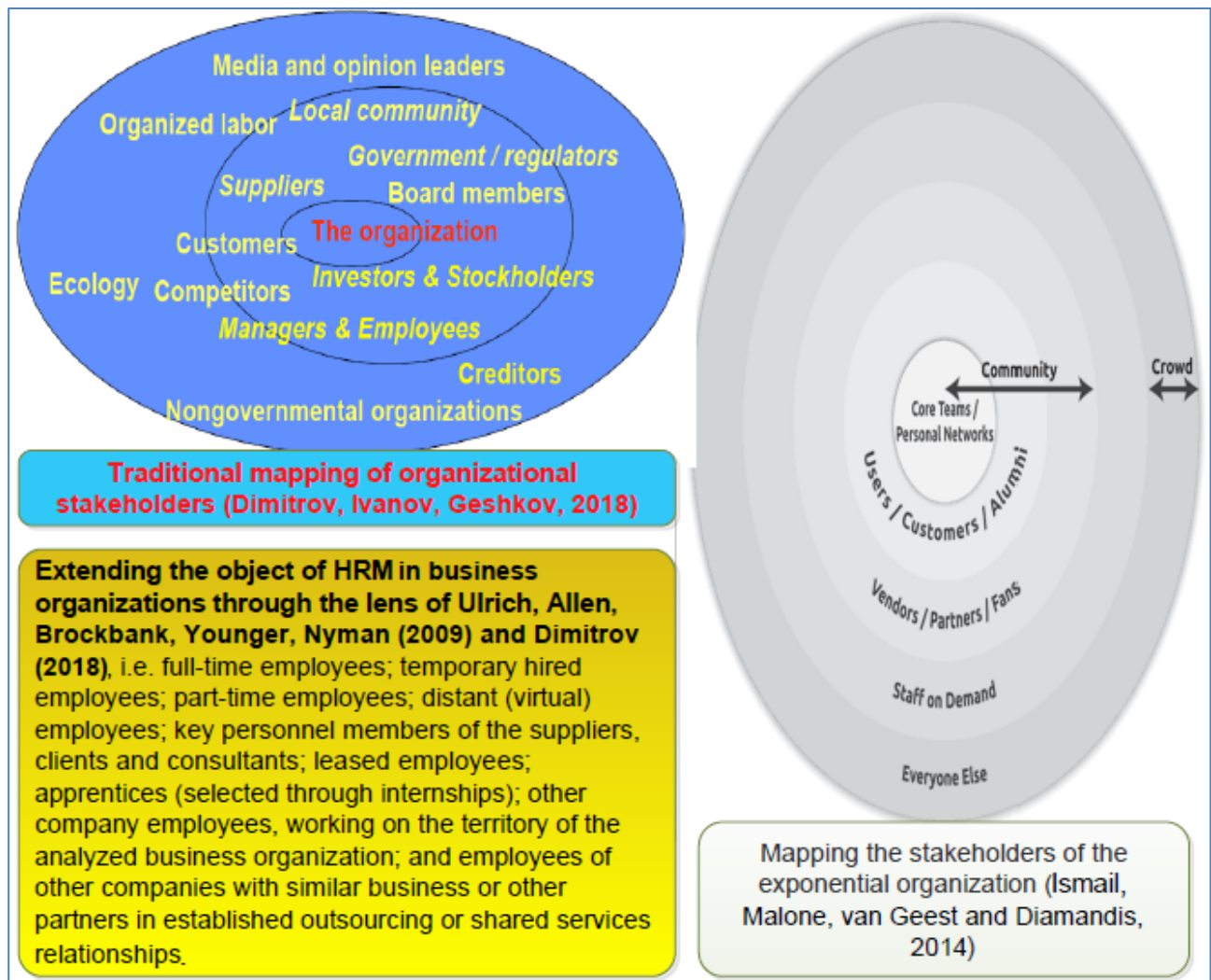
Adapted from: Dimitrov, Ivanov, Geshkov, (2018); Ulrich, Allen, Brockbank, Younger, Nyman (2009), Dimitrov (2018), Ismail, Malone, van Geest and Diamandis (2014).

Figure 3. Different approaches to company stakeholder classification.

- *Algorithms* – important and obligatory components of each succeeding business, considering the numbers of cheap sensors and connected devices, because algorithms identify data streams that can be automated and help with in particular business-related activities (Ismail, Malone, van Geest and Diamandis, 2014). For this purpose two types of algorithms are applied: (a) machine learning ("the ability to accurately perform new, unseen tasks, built on known properties learned from training or historic data, and based on prediction", and (b) d*eep learning* ("it allows a machine to discover new patterns without being exposed to any historical or training data, based on neural net technology). Their smart and intensive use provides the exponential companes with the opportunity of realizing all the benefits of generated big data (i.e. productivity, prevention, participation, personalization and prediction)

and explains why gathering, organizing, applying and exposing data becomes of crucial importance for these entities. The advantages of applying algorithms consist in their allowing fully scalable products and services, not owning the devices and sensors to track and collect data, their observed lower error rate and easy adaptation. The necessities of their cultural acceptance by the affected constituencies and legal regulations of the emerging relationships and accumulating information (including potential information security issues) represent great challenges to the mass use of algorithms.

- *Leveraged Assets*: the organizational practice of not acquiring assets and resources, just ensuring an access to them when needed – not only for heavy machinery and non-mission-critical functions (e.g., copiers), but also for outsourcing even assets and resources from the so-called strategic areas (i.e. cloud computing, product development, office, funding, mentoring and peer input), if these assets are commoditized, abundant (not extremely scarce), information-enabled and not rare. The information age and related technologies provide the opportunities of accessing physical assets anytime and anywhere, easily sharing and scaling assets both locally and globally. Thus, scalable products may be supplied, the marginal cost of supply is lowered, the necessity of managing assets and resources is eliminated and organizational agility increases (Ismail, Malone, van Geest and Diamandis, 2014).

- *Engagement* – It is "comprised of digital reputation systems, games and incentive prizes, and provides the opportunity for virtuous, positive, digital feedback loops – which in turn allows for faster growth due to more innovative ideas and customer and community loyalty", speedy conversion of crowd to community, leveraging company initiatives in the marketing sphere and enabling play and learning (Ismail, Malone, van Geest and Diamandis, 2014). Engagement may be defined as "a way of enabling collaborative human behavior – social behavior – to come into play", because "connected individuals can now do what once only large centralized organizations could" (Merchant, 2012). Engagement may be described by means of its key attributes: (a) ranking transparency, (b) stimulating self-efficacy (sense of control, agency and impact), (c) peer pressure (social comparison), (d) driving long-term behavioral change by means of provoking positive emotions in constituencies, (e) providing instant feedback (short feedback cycles), (f) formulating clear, authentic rules, goals and rewards (only reward outputs, not inputs) without allowing conflicts of interest, and (g) putting into circulation virtual currencies or points for the constituencies.

- *Interfaces:* these represent filtering and matching, standartised, unique and proprietary processes, by which exponential organization can bridge from its external growth drivers (SCALE) to control frameworks of its internal stabilizing mechanisms (IDEAS). It may be concluded that the interfaces are used as a means of managing *abundance* and filtering it into internal value. "They are algorithms and automated workflows that route the output of external attributes to the right people at the right time" inside the organization, bearing a human friendly appearance

(Ismail, Malone, van Geest and Diamandis, 2014). The automation of these processes does not happen fast and at once. It comes into being only when the company is ready to scale. Examples: **Uber Interface:** driver selection, d*escription:* system to allow users to find and choose drivers; **TED Interface:** video translation subtitles, description*:* manage translations created by volunteers via the vendor dotsub. Further they may be transformed into self-provisioning platforms, enabling the scaling of an exponential organization (Google's AdWords).

- ▪ *Dashboards:* they are needed in business organizations to: (a) perform real time tracking of critical growth drivers, (b) create control framework in order to manage fast growth by applying *Objectives and Key Results* (OKR) method (see table 3), (c) minimize exposure to errors because of establishing short feedback loops. The choice of appropriate metics is very important and the timing of their implementation too (not until the product is finalized) (Ismail, Malone, van Geest and Diamandis, 2014). *Dashboards*'s successful functioning depends on building a strong cultural acceptance among employees and other constituencies. The use of OKR method should not be overestimated because the traditional management by objectives approach still provides acceptable results, if applied properly (Zlatev, 1999, pp165-180).

Table 3. Mapping the essence of *Objectives and Key Results* (OKR) method

Attributes	Description
Provides an answer to two questions…	1. Where do I want to go? (Objectives) 2. How will I know I'm getting there? (enlist key results to ensure progress is made)
Contributes to..	Maintaining focus, simplicity, short(er) feedback cycles, openness, facilitates the implementation of insights and improvements, makes them better visible to constituencies for an appreciation.
Characteristics…	(a) determined bottom-up (b) objectives (dream); key results (success criteria). (c) Objectives (qualitative); key results (quantitative). (d) OKRs ≠ employee evaluations. OKRs are about the company's goals and how each employee contributes to those goals. (e) Objectives should be difficult to achieve
Applied quantitative measures…	1. up to five objectives and four key results per initiative may be determined. 2. key results should see an achievement rate of 60 to 70 percent.
Source: Ismail, Malone, van Geest and Diamandis (2014) (fourth chapter).	

- ▪ *Experimentation:* it is defined as "the implementation of the lean startup methodology of testing assumptions and constantly experimenting with controlled risks" and learning from them (Ismail, Malone, van Geest and Diamandis, 2014) that requires the establishment of specific culture, oriented to measurement and tracking of the experimentation processes and constantly boosting the willingness to fail and pivot (iterate) as needed, trying to gain experience and eliminate the waste, generated in the company during the performance of its normal activities.

Experimentation is useful to the succeeding company because it considers rapid changes in the externalities and continuously aligns the internal processes with them, maximizes value capture, shortens the time to market for developed product, adopting the concept of minimum viable product.

- *Autonomy:* it is defined as self-organizing, small, independent, "multi-disciplinary teams operating with decentralized authority" without relying on classic management structure, reporting lines, job descriptions or regular meetings (Ismail, Malone, van Geest and Diamandis, 2014). Each hired talented individual is allowed deciding what projects to join. Some projects may be planned and accomplished even with external partners in order to realize the potential from collaborations on promising, innovative ideas. In rare cases employees are vested the right to (re-)elect their managers (including a CEO). Autonomy is implemented in business organizations by means of holacracy, i.e. "a social technology or system of organizational governance, in which authority and decision-making are distributed via fractal, self-organizing teams rather than being vested at the top of a hierarchy" (Robertson, 2015). That is why the organization, having chosen such management method, is characterized by dominance of experimentation, emphasis on organizing work, enacted OKRs, dynamic and flexible planning, acception of dynamic roles for vital people who fulfill them, openness, transparency, core goal orientation, perceiving tension as fuel, establishment of clear separation among people, relationships and roles. Autonomy is useful for exponential organizations because it increases entity's agility, employee accountability at customer face, leads to faster reactions to issues, shortens learning times for business related newness, and improves employee morale.

- *Social Technologies:* They may be presented as a set of seven key information-enabled elements: social objects (employee relationship management, location, physical objects, ideas and knowledge, including updates to pricing data, inventory levels, meeting room occupancy, coffee refills, etc.), activity streams (possible employee subscriptions to any social objects), task management (teams that adopted the applied software metrics as a part of their dominating culture), file sharing, telepresence (enabling employees to contribute from any location and interact at global level, reducing company travel costs and improving their own well-being), virtual worlds (providing opportunities of interaction, collaboration, coordination and even prototyping) and emotional sensing (applying sensors within a team to create the so-called quantified employees and a quantified workforce). Social technologies are important to succeeding organizations because they contribute to conducting faster conversations, accelerate decision cycles by reducing distance among obtaining of information (i.e. having it flow through employee perception instead of employee's having to look up it), its processing and making of decision based on it, catalyze the organizational learning processes (even through leveraging community to generate ideas), and serve as a stabilizing force in times of rapid company growth. Once implemented, the aforementioned

elements create transparency, connectedness, engagement, trust, and lower an organization's information latency both internally and within its community.

2. The continuum of revolutions (evolution) in the HRM sphere

According to a good definition for HRM, it represents a system of applied practices for holistic management of labor relations that are typical for leading companies from developed countries. This is how the international perspective of the undertaken activities in this sphere is disclosed, acknowledging the increasing importance of globalization and the value-added by the design of HRM activities, oriented to solving the problems, arising from national culture collisions and clashes of political atmospheres (Dimitrov, 2006; Ferris, Hochwarter, Buckley, Harrel-Cook, Frink, 1999). In fact when historical development of HRM is traced, most of the literature sources reflect the business history of developed economies, comfortably neglecting the fact that different parts of the world progress in different speed due to not only economic factors, but also cultural, religious, social and ideological ones (see Iles, Zhang, 2013; Ulrich, Allen, Brockbank, Younger, Nyman, 2009; Wong, 2007). The practical orientation, adopted by Peter Boxall (1993), helps identifying two broad streams in the scientific literature, disclosing the meaning of the aforementioned construct. *The first one* presents HRM as movement of managers and personnel administration, labor and employability specialists who strive to change the traditional institutions in the industrial relations by introducing new practices, oriented to the achievement of higher employee engagement. Viewed from this perspective, HRM seems as a managerial attempt to create specific work conditions for the employees in order to eliminate their needs to defend their rights through participation in trade-unions. The aforementioned specific work conditions are characterized by assigning more interesting tasks to employees, applying diverse mechanisms for employee participation in management processes, supported feelings of job-security, consecutively demonstrating fair treatment to personnel members and continuously providing of developmental opportunities for employees, emotionally bound to the company.

The second stream is oriented: (a) predominantly to exploring the relations between the pursued company labor policy, defined as broadly as possible, and strategic management; and (b) to a lesser degree to examining HRM as a definite model of the managerial strategy, i.e. strategic human resource management.

Based on this review, it may be logically concluded that any key marker events in the semantic enrichment of HRM ensue from respective challenges, confronting business organizations and their constituencies:

- The industrial revolution, intensifying the necessities of searching effective and efficient labor organization for large groups of workers and mastering the work-related chaos across hierarchical levels in large companies by means of elaborating appropriate organizational designs. In concern with the formation of the HRM function in business organizations it is worth noting that for the first time *National Cash Register Company* in the USA establishes "Personnel" office in 1890, and at almost the same time in Great Britain the position of (employee) welfare director is introduced (***, 2019; Shopov, 1999).

- Considering the identification of HRM an unattainable aim all these years because of (Hammer, Champy 1993; Keenoy, 1997; Arthur, Rousseau, 1996): (a) rigorous defense of many existing perspectives in concern with its embedded shades of meaning by diverse constituencies (i.e. continuously expanding and diluting the area), (b) hardly identifiable similarities in the HRM sphere in different large multinational organizations (i.e. implied relationship between big organizations and HRM to some extent supported by research results; no trade-unions, dominance of individualized relationship "manager - employee"), (c) recurring problems with constructs (i.e. professional language: new tems, old ones, rhetorics versus experience etc.) clearly describing the ongoing processes in the HRM sphere, (d) changes in locations where HRM is practiced (i.e. the organization, the employee and the employment relationships).

- The level of adoption and proclaiming of certain management theory for the purpose of solving (resolving, absolving) pending human related business issues. This is the reason why a great deal of ideas and techniques from general management theory, sociology, psychology and other sciences are accepted and synthesized in the HRM field in different periods (Price, 2004) – for example scientific management, behavioral theory, organizational development, management by objectives, strategic management, leadership, corporate culture, etc.

- Identified professional issues within the people management sphere due to (***, 1994a; Shopov, 1999; *** 1994b): (a) the perception of low status for HRs in comparison to incumbents in other functional spheres in the companies as a result from lasting support of narrow functional view, overlooking general issues as company strategy, market competition, labor economy conditions and the contributions of other organizational functions to the overall business success of the entity. This is why the HRs seem to be ready for everything, including a change of job title that serves as a plausible explanation for the observed difference between personnel management and HRM. (b) the significant influence of government policies on industrial relations from the 1980s and 1990s in counties from defferent regions of the world, contributing to emergence and establishement of more individualistic "employer - employee" relationship, and thus leading to rediscovery of personnel management by senior managers in the companies.

- Generating an acceptable alternative to observed pluralistic attitudes to employees in the companies. In this way the HRM is given direct orientation to daily practices in managing people. It is accepted as a series of normative-descriptive lectures for employee management and an aggregate of diverse social practices, engaging or alienating employees. It is considered as normal that HRM exerts different impact on employees because of situational limitations, different managerial interpretations, its giving promises predominantly for the future, degrees of acceptance, agreement and fears, associated with it among employees, embedded in their work-related thoughts and behaviors (Keenoy, 1999; Dunn, 1990).

- Balancing the interests of company stakeholders. Thus HRM is viewed as a phenomenon, created and enacted by social actors as managers, employees, trade unions, politicians, consultants, scientists, etc. aiming at provoking desired changes in labor relations, relying on their official and informal aspects. It represents all managerial decisions and activities, concerning "management-employee" relationship, oriented to the creation of positive corporate culture, creative organizational climate in congruence with cultural manifestations at other levels and smartly navigating through numerous needed tranformations (Peters, Waterman, 1982; Paunov, 2012).

- Smartly choosing and timely switching over appropriate roles for (by) managers in business organizations, based on dominating attitudes to human nature and employees. Thus, HRM may be viewed as a function, supporting employee motivation and engagement, desired team spirit, leadership behaviors, emotional intelligence, strong organizational culture and the strategic intents of senior management (Rachman, Mescon, Bovee, Thill, 2001; Zlatev, 1999; Schein, Schein, 2017; MTD Trainig, Bookboon, 2017).

- Mitigating the short-term effects and long-term consequences from economic or other types of crises or even anticipating them has become an imperative for managers from all organizational levels under the conditions of continuously changing business environment since the 1970s, characterized by dynamics, uncertainty, ambiguity, disequilibrium (instability), continuous cycle of accumulation and destruction of wealth, mass use of information technologies, dilution of organizational boundaries, resulting from the creative design and implementation of diverse forms of interorganizational collaboration, insufficiency of qualified personnel, revolving fierce wars for talent, and emergence of new business models, provoking deep market changes (Ulrich, Allen, Brockbank, Younger, Nyman, 2009; Ulrich, 1998; Dimitrov, 2015b). The aforementioned serious challenge ignites other trends in HRM-related thinking and activities in companies, as follows:

  o Occupation of new work roles by HR managers to focus on outcomes more than activities, thus becoming (Ulrich, 1998): (a) a trustful partner of board members in strategy implementation, (b) an administrative expert, pursuing decreases in expenses while maintaining quality levels, (c) simultaneously working to raise employee work contributions and defend their interests towards senior managers, (d) continuous change agents.

  o Specifying HRM as an approach of achieving a sustainable competitive advantage and emphasizing the relationship between the overall company strategy and HRM by deliberately searching for: (a) HRM practices with higher contributions to the company financial results, (b) HRM practices with higher effectiveness in relation with certain characteristics of implemented strategies in certain spheres of the organization or (c) "sets of ideal HRM practices", greatly influencing the relationship between the overall company strategy and firm's performance (Storey, 1995; Schuler, Jackson, 1987; Delery, Doty, 1996).

- o Putting an emphasis on education and professional training with the aim of developing specific employee skills, capabilities and knowledge, creates the opportunity of closely relating HRM to the human capital theory (Armstrong, 2006).

- o HR managers' deliberate and continuous implementations of web technologies in support of the performed HRM activities by which they find ways of better cooperation with other functional managers and employees. These managerial initiaitves are grouped under the label of e-HRM (electronic human resource management) (Bondarouk, van der Heijden, 2009, p.368; Dimitrov, 2015b).

- o When HRM is accepted as an important factor in undertaking sustainable development efforts by the managers in the contemporary companies, it is reshaped as talent management by means of which managers persist in creatively accelerating and maintaining high levels of employee performance, work satisfaction and engagement with company activities, and decreasing employee turnover (Dimitrov, 2016). According to a very interesting definition talent management represents "*a specific bundle of organization-wide integrated efforts to innovative ideas and creative realizations of contemporary people management that reach far beyond entity's boundaries, balancing diverse interests of firm's constituencies and deliberately searching for their contribution to the process of sustainable value creation not only in the company, but also by integrating its endeavours with other social actors, representing even higher-rank systems, oriented to societal well-being*" (Dimitrov, 2015a, p21). This perspective converges on the understanding that HRM realizations (strategy, practices, processes, initiatives, and projects) in business organizations should begin from the outside in (Ulrich, Allen, Brockbank, Younger, Nyman, 2009), i.e. through deriving, responding and aspiring to external business conditions, company stakeholders (customers, investors, community leaders, etc.) and the business success of the whole entity, maintaining an active position on business performance issues, building organizational capacity through pursuing the right mix of personal and organizational development actions, continuously innovating and integrating of numerous HR events into cohesive solutions, championing individual, team, organizational and institutional changes and smart using of HR data analytics.

- o The accelerated growth in some companies and industries due to promising technologies as cheap analog sensors, virtual currencies, 3D printing, neuro-marketing, artificial intelligence, robotics, nanotech and Big Data, has given birth to the concept of the exponential HRM that reaches even further into the morass of diluted organizational borders and what is considered „outside the company" (Ismail, Malone, van Geest and Diamandis, 2014). In fact it restructures these layers into a coherent whole in terms of available and now considered as manageable large groups of human resources, operating on a

global scale. This is achieved by formulating a creative classification of new key categories of personnel whose contribution is associated with different strength and duration to the exponential organization, i.e. the formal team employees, the larger staff on demand (including the people, performing the crowdsourced tasks or providing crowdsourced inputs). *That is why exponential HRM may be reduced legitimately to smart managing the realizations of the exponential organization in order to enhance the interactions of humans, contributing to the entity in one way or another - not only these with mixed impact on humans (i.e. direct or technology mediated) as Massive transformative purpose, Staff on Demand, Community and Crowd, Engagement, Autonomy, but also these based predominantly on mediating technologies as Interfaces, Dashboards and Social platforms (technologies).* This condition does not expel from functioning any traditional components of an HRM system that may be implemented in this business organization, in spite of its size - most frequently these, regulated by enacted laws as personnel administration (contracting and payroll), and adherence to safety and labor conditions.

3. Components of the HRM system in contemporary business organizations with high contributions to the achievement and retention of great successes

The sphere of HRM is not represented by a separate chapter in the book by Ismail, Malone, van Geest and Diamandis (2014), although its existence becomes evident by the use of some subheadings and related content in the text body, disclosing that exponential organizations design and adopt certain human related components, approaches, methods and practices in order to support chosen new business models, thus attracting and retaining the flow of breakthrough successes to these entities. Nevertheless how the exponential organization is created or structured (i.e. inside or ouside an exisiting company), its HRM activities are declared to be entirely separated from the implemented HRM system of the mother-company, although some synergies might be used appropriately. Furthermore, it is not directly mentioned or even implied that most of the traditional HRM attributes of big business organizations are abandoned by senior management team in order to accelerate performance and create higher value-added through the newly formed exponential unit or organization. On the contrary, the attention deliberately is drawn to only these HRM organizational attributes that accelerate and scale business successes of the exponential entity, but logically it may be concluded that the cutting-edge HRM practices may co-exist with some traditional ones, applied in the target organizational setting, thus constituting the holicity of an independent HRM system. So, an array of prescribed HRM attributes may be smartly applied and adapted for satisfying business-related specific necessities in the exponential entities. There are specific types of exponential organizations, categorized by their size (Ismail, Malone, van Geest, Diamandis, 2014):

- ▪ *Exponential startups* which existence is preliminary planned up to a specific date in the near future in order to bring chosen technology to fruitful life (i.e. produce a prototype at acceptable quality level for certain customers or a "minimum viable product") or *exponential entrepreneurial companies*, created without defined life-time limits. Since the operations here are built from scratch and preferred company sizes are small (even measured as average personnel number for an appropriate time period), these newly established small companies rely on just several HRM attributes, comprising simple or in some cases interpreted as underdeveloped HRM systems that ensure their functioning at acceptable levels. It seems that concepts as "an entrepreneur" and "a startup founder" are used interchangeably in the text body (Ismail, Malone, van Geest and Diamandis, 2014), while a clear definition is provided only for a strartup "*a human institution designed to deliver a new product or service under conditions of extreme uncertainty*" without noting any potential planning period date of closing it, if the MTP is not achieved (Ries, 2011).

- ▪ *Existing mid-market business organizations*, characterized by plateauing growth, heavily relying on what already exists in them in a stable business environment and further deliberately igniting, supercharging and elaborating their exponential capability from that developmental stage.

- ▪ *Large organizations*, striving to preserve to a greater extent their operational busineses intact while actively accepting the challenges of the contemporary accelerating business world.

Exponential startups and entrepreneurial companies grow in great numbers because the new "high-metabolism" business world, multidirectionally impacted by accelerating technologies, brave entrepreneurial thinking, diversity of crowdsourcing and crowdfunding options, provides unbelievable opportunities for successful and fast-pace new company creation and further development. Even the owners' profile of the most succeeding companies is outlined by presenting the results from empirical surveys in the USA - well-educated thirty-something co-founders who have joint experiences (i.e. former classmates, colleagues, partners). As far as CEOs are concerned, the technical backgrounds remain indispensable. These business environment conditions put forth at least three challenges to a company's founders and management team, as follows (Ismail, Malone, van Geest, Diamandis, 2014):

- ▪ Choosing appropriate ways of organizing the enterprise in order to maximize its performance.

- ▪ Finding smart ways of leveraging technology and information in order to create a unique and sustainable business model and transform it into competitive advantage.

- ▪ Discovering the right ways of building a powerful and effective (core) team(s) through igniting a shared passion and realizing synergy effect.

HRM activities here proliferate even outside the diluting organizational boundaries through the expressed necessity of smartly putting in engaging efforts for the members of company's open source community and crowd (i.e. enthusiasts, hobbyist innovators,

professionals, visitors of designer sites) who are invited to participate in contests for each component of product design through an electronic platform. Collaboration with university is not recommended, based on case-studies analyses, disclosing incurred legal issues about ownership and licensing costs, and lack of motivation in students. If the influence of the community on the newly created entity is very powerful, it is considered that a greater attention should be paid to developing diversity in founding team members' backgrounds, possessing independent thinking and complementary skills (Table 4).

Table 4. Key roles and skills for the members in founding teams of exponential organizations

Role/ Skill	Description
Visionary/Dreamer role	The primary role in the company's story. The founder with the strongest vision for the company comes up with the MTP and holds the organization to it.
User Experience Design role	It focuses on users' needs and ensures that every contact with users is as intuitive, simple and clear as possible.
Programming/Engineering role	Role responsible for bringing together the various technologies required to build the product or service.
Finance/Business role	The business function that assesses the viability and profitability of the organization, is the cornerstone of interactions with investors and manages the all-important burn rate.
Discovery skills	The ability to generate ideas – to associate, question, observe, network and experiment.
Delivery skills	The ability to execute ideas – to analyze, plan, implement, follow through and be detail-oriented.
Source: Ismail, Malone, van Geest and Diamandis (2014) (sixth chapter).	

The exponential growth of a succeeding company should be carefully managed by the establishment of desired culture (Ismail, Malone, van Geest, Diamandis, 2014): (a) first the informal culture of the founders, (b) second design of its formal (professed, proclaimed) component – the MTP, (c) then transformed into team culture and organizational culture with the penetration of new people in the organization and the impact of social technologies. For practical reasons the establishment of desired corporate culture is incarnated in the chosen set of HRM practices. The last is recommended to be implemented in two phases: (a) learning how to effectively track, manage and reward performance (designing the OKR system), (b) embedding appreciation for transparency, accountability, execution and high performance among team members (i.e. organizational values or principles of management).

When the newly created exponential organization represents a structural part of an existing company, it is labeled as "enterprise ExOs (EExOs)", characterized by: (a) complete independence of existing HRM system and policies; (b) hiring of an appropriate, small, isolated and fully autonomous team (i.e. the most disruptive change-makers from the company, young people, dissidents, rebels, employees, working on the geographic and mental peripheries); (c) ensured direct support from the CEO through a direct formal

link; and (d) actual physical separation of its facilities from the other company buildings (Ismail, Malone, van Geest, Diamandis, 2014).

In the case of exponentially developing existing mid-market business organizations Ismail, Malone, van Geest and Diamandis (2014) consider the unique situation in each company, confessing that there is no "template for going exponential" (p.143). In this way they justify the use of case-study approach in presenting successful exponential transformations in six companies (see chapter 7) that are analyzed here through the lens of applied HRM attributes, although in a disbalanced way (see table 5).

Table 5. Attributes of specific HRM experience in exisiting mid-market business organizations, successfully ignited to exponential growth

Company	Description of specific HRM experience
(1)	(2)
1. TED (Technology, Entertainment, Design) Conference	1.1. Turn crowd into community through engagement by creating a toolkit for any TED member to create a TEDx franchise (fixed rules).
	1.2. Allow the community to build organization outside traditional, formal boundaries of its reporting lines.
	1.3. Change the base of participants from power brokers to the educated masses.
	1.4. Company growth did not depend solely on their management.
2. GitHub electronic (coding) platform	2.1. Establishing a social network for programmers in which people and their collaborations are considered as the most important.
	2.2. The company leverages the entire open source community for its internal work.
	2.3. Maintaining high speed of turning new developers (Crowd) into users (Community) by means of providing a bunch of learning opportunities on-line (as software coding lessons, collaborative environment) and off-line (as an open office for all stakeholders to contribute or learn, open event space).
	2.4. Applying an effective and appropriate forms, means and types of feedback: (a) codified as algorithms; (b) instant messaging; (c) a chat room; (d) limiting the use of email to sending platform reminders and alerts about pending changes to the platform; (e) employee face-to-face conversations, calls or Hangouts for strategic discussions; (f) using the platform, chat or email for more operational work.
	2.5. The company enlists users in improving their own work environment by enhancing the (internal and external) platform(s) through chosen software from different projects.
	2.6. High level of community members engagement is achieved and maintained by use of leaderboards, a rating and reputation system, provision of a feedback on new code in almost real time, software incentive competitions and gamification programs.
	2.7. Preferred characteristics of the corporate culture - decentralized, responsive, transparent, self-organizing, conversational, revolutionary and exponential.
	2.8. Accelerating the performance of new employees for a certain project (i.e. project onboarding) by providing them with the freedom to join any project of interest and supporting them with necessary training materials and documentation from across the organization from the beginning.
	2.9. Introducing completely decentralized authority and decision-making through the use of self-organized project teams.
	2.10. The recruiting process is primarily focused on self-starters who have passion, purpose, and potential.

Table 5. Attributes of specific HRM experience in exisiting mid-market business organizations, successfully ignited to exponential growth (continued)

(1)	(2)
	2.11. Establising a unique organizational design, characterized by employee „open alocation" in the company milieu.
	2.12. The individual ratings on GitHub influence to a great extent software developers' hiring prospects and compensation in Silicon Valley (USA) today.
3. Coyote Logistics	3.1. Collaborating with a great number of carriers operating under contract with the company, thus reaching the organizational goals without bearing the burden of managing a huge personnel.
	3.2. The group of contracted carriers is wisely transformed into a community (drivers, shippers and employees) that interacts with the core team (i.e. the company employees) by means of social media and mobile apps (Facebook, Twitter, YouTube, LinkedIn and CoyoteGO).
	3.3. The company prefers hiring young college graduates without experience in the logistics industry, but who demonstrate passion, attitude and personality for work.
	3.4. Implementing a data-driven selection management solution.
	3.5. Ensuring extensive initial employee training and providing apprenticeship possibilities.
	3.6. Corporate culture attributes: (a) fostered brand characteristics - true, tenacious, tribal, and smart; (b) dominating attitude - cocky, communal and competent; (c) company characteristics - hot young technology startup, fast moving, creative and spilling over with energy.
4. Studio Roosegaarde (contextual art installations using information-centric technologies)	4.1. Desired candidate characteristics – passion and a self-starter mentality.
	4.2. Applying an ideation process, heavily relying on the crowd for the search of best press opportunities, people, ideas and vendors. In fact most concept and vendor research is crowdsourced, filtered by passion and commitment.
	4.3. Strictly organized careful listening to the community and crowd for new ideas and experiments by means of inbound emails and calls.
	4.4. Corporate culture chracteristics: (a) the relationships with clients and end users are marked by iteration and short feedback cycles; (b) strong belief in the Holacracy model (objectives and key results, lean, open, transparent).
	4.5. Job descriptions are not implemented.
	4.6. Staff members are allowed spending at least 30 percent of their working time on their own projects.
	4.7. Boosting team bonding and creativity through hiring staff on demand predominantly through internships, the use of Viadesk software, wikis, Connected 3D printers, Cisco videoconferencing, Google Trends and Social Media Monitoring (Lean Startup tool).
	4.8. Dominating personnel categories for the company: a much smaller core team, more staff on demand and a great deal of crowdsourcing.
5. Zynga	5.1. Reported accelearted company growth (a two-and-a-half year period) through an HR metic – from only thirty employees to three thousand personnel members, achieved by means of forty acquisitions with a success ratio of 95%.
	5.2. Exerting smart efforts in managing company growth without diluting the original corporate culture by means of strictly adhering to objectives and key results system in order to track team progress and performance and keep everyone synchronized.

Table 5. Attributes of specific HRM experience in exisiting mid-market business organizations, successfully ignited to exponential growth (continued)

(1)	(2)
	5.3. Introducing a new approach in post-merger HRM integration processes: (a) no planned decrease in the operations of the newly acquired entities; (b) no further attempts to better understand their specificity of functioning; (c) not adapting a newly acquired entity's internal operations to a desired company order; (d) no direct pursuit of achieving integration synergies; (e) not inculcating new employees into the original company culture; (f) not creating a sense of being stuck at the starting gate for the newly arrived employees who may feel forgotten, ignored or even punished; (g) implementation of exponential objectives and key results system upon receiving the agreement of the newly acquired employees; (h) furthering work-related employee communications by means of introducing social mechanisms both internally and externally.
6. GoPro (producing waterproof cameras for surfers)	6.1. Creating an engaged community through: (a) frequently organizing contests for participants to share their dream adventures by means of text and videos; (b) providing the opportunity of sharing footage on firm's website, Facebook, YouTube and Felix Baumgartner space jump; (c) third-party developers are allowed creating additional functionality for their GoPro devices; (d) transforming into an open platform with open APIs.
Source: Ismail, Malone, van Geest and Diamandis (2014).	

Based on case-study research Ismail, Malone, van Geest and Diamandis (2014) are able to formulate two requirements (in fact prerequisites) for successfully transforming an existing enterprise into an exponential organization, as follows:

- Design and implementation of a target corporate culture, ensuring organization's quick adaptation to rapid and radical changes. Organizational culture forms as rituals and meaning are specified as stabilizers of companies and catalyzers of team motivation.

- The availability of a visionary leader who "thinks big and acts decisively", supported in his endeavours sincerely and fully by the board and senior management.

Ismail, Malone, van Geest and Diamandis (2014) propose four strategies to the established large organizations in order to successfully deploy in an accelerating business world while keeping their core operational businesses intact, i.e. transforming leadership, partnering with, investing in or acquiring exponential organizations, disrupting[X] and implementing exponential organization Lite internally (see figure 4) whose HRM characteristics represent key interest for the current survey, as follows:

Source: Ismail, Malone, van Geest and Diamandis (2014).

Figure 4. Deploying strategies for large companies in an accelerating business

- In concern with transforming leadership, the team of researchers (Ismail, Malone, van Geest and Diamandis, 2014) poses direct requirement to senior managers in the succeeding contemporary company and especially to the board members that to some extent penetrate the sub-field of corporate governance (Tricker, 2015), i.e. (a) bringing in outside sources to increase board's awareness of disrupting technologies and their potential impact on the company, (b) the board members are expected to pass through specific trainings (i.e. a personal transformation program, visiting specific workshops), (c) the board members are expected to buy into CEO's plan for radical organizational change, (d) the performance of the board members should be monitored and appraised by means of OKRs, (e) senior managers' teamwork should be highly valued, (f) demonstrated diversity in terms of experience and perspective by candidates should be determined as the main criterion for promotion of new managers, (g) sex and age discrimination should also be avoided in relation to the implemented career policy in the company in order to enable the seizing of exponential opportunities (i.e. applying "reverse mentoring" for senior managers, performed by young people with specific skills, knowledge and capabilities; applying job shadowing for young high potential employees with experienced senior managers), (h) pursuing optimal suite between types of employees and performed roles in the company, and (i) develop appropriate leadership skills for leaders in exponential organizations (see table 6).

Table 6. Appropiate leadership skills in exponential organizations

Skills/ Roles	Description
(1)	(2)
Visionary Customer Advocate skill	In a period of rapid transition, the originally successful connection "an exponential organization (its products) – customers/clients" should be strictly maintained by the leader(s). When customers see their needs and desires are considered by decision-makers in the company, they tend to persevere through the chaos and experimentation due to realization of exponential growth.
Data Driven Experimentalist skill	A nimble, scalable, process-oriented approach may be used to create order out of high-speed chaos, i.e. the lean startup approach may be always used by leaders to quickly iterate and build institutional knowledge through establishing and maintaining incredible connections (engageging) with exponential company's community and crowd. Thus community members not only feel flexible with the process, but also may become excited or require to be a part of it. Leaders should stick to rapid feedback and timely progression of a product or service.
Optimistic Realist skill	When scaling rapidly, leaders strive to understand, quantify and interpret the reality of a situation or opportunity, emphasizing any achieved positive result, is critical to navigation and teamwork performance.
Extreme Adaptability skill	Leaders should relate disruption of business models with the opportunity/requirement to adapt/change the organizational leadership, relying predominantly on constant learning.

Table 6. Appropiate leadership skills in exponential organizations (continued)

(1)	(2)
Radical Openness skill	Leaders should learn to balance the two sides of a coin - to embrace experts outside the organization and to interact with a large and diverse community, bearing a lot of noise, criticism and feedback. Creating an open channel to the crowd and the mechanisms to determine signal from noise can provide new perspectives and solutions, allowing access to whole new layers of innovation.
Hyper-Confident skill	In order to live on the exponential curve an exponential leader should develop extreme selflessness, self-confidence, courage and perseverance to learn, adapt and, ultimately, disrupt his own business.
Optimizers (role)	They run large businesses at scale and squeeze efficiency to maximize profits.
Scalers (role)	They take a proven model and grow it.
Evangelists (role)	They champion new ideas and move projects from the idea stage to initial commercialization.
Source: (Ismail, Malone, van Geest and Diamandis, 2014, chapter eight).	

- In concern with creating internal exponential business unit, partnering with, investing in or acquiring exponential organizations (including accelerators, incubators and hackerspaces), it may be stated that (Ismail, Malone, van Geest and Diamandis, 2014):
  - An internal exponential unit (for example a strategic business unit) should be created, if only the existing large company is able to hire the necessary talent, thus maximizing exerted control and minimizing related costs.
  - If there is talent shortage on labor market, the acquisition of an exponential organization comes to the fore, bearing in mind the potential challenges in managing the post-merger integration,
  - If the existing large corporation does not have the strategic need to own a respective exponential business, it may partner with the last in order to explore the potential fit and synergy by learning more about the market and the new business model. Partnership may be considered as a preliminary stage to acquisition.
  - Investing in an external exponential organization is considered an appropriate strategic move for the existing large corporation when the last intends to watch and learn about an emergent opportunity. It may be considered a preliminary phase to realizing a potential partnership and maybe an acquisition at a later moment.
- In concern with direct leveraging of disruptive technologies by the exisitng large organization (i.e. Disrupt[X]). This strategy may be described by the following characteristics (Ismail, Malone, van Geest and Diamandis, 2014): (a) its implementation is difficult, since enacted organizational designs always suppress potential disruptive influences in large organizations, (b) its realization depends to great extent on building and good performance of a team of changemakers (c) the high-potential teams of changemakers may be descibed as small, agile and

bootstrapped cross-functional startup teams, (d) anywhere appropriate "outside the core organizational boundaries" is considered as the best localization for any team of changemakers, (e) deliberately motivating the changemakers to seek leverage through connecting target constituencies outside the existing company, utilizing full decision autonomy, based on clear and simple processes and procedures, unleashing them to disrupt other markets, while preventing their penetration into the core markets for the exisitng company and improving their communications with the core company. The aforementioned strategy may be alternatively realized by means of three strategic moves, as follows:

o *Exponential organizations, formed at the Edge of existing corporations*. The "edge" is defined as "an emerging business opportunity that has the potential to scale quickly and become a new core for the business at a later phase". Smart management of changemaker teams is the key HRM activity here (see table 7). Senior management of the existing organization should gradually live up with the clear notion that some day not so far in the future the newly created exponential unit may become the core business of the existing company, but the contemporary core activities may become supplementary or vanish (Ismail, Malone, van Geest and Diamandis, 2014).

Table 7. Important aspects of hiring changemakers for an exisiting company, pursueing an exponential growth

Aspects	Advantages	Disadvantages
Personal profile	highly creative, self-starting, having generated brilliant ideas and vision	don't fit neatly into a box
Attitude to work	understanding the edge opportunity, demonstrating loyalty to the company	frustrated by limitation
Approach to career (self-)management	(a) Embracing a promising edge opportunity (b) Timely re-assigning them to the organizational periphery where providing them with freedom to develop an exponential unit	(a) get fed up and leave, or (b) are fired, after being held back by interminable management layers and bureaucratic processes
Source: (Ismail, Malone, van Geest and Diamandis, 2014, chapter eight).		

o *The strategic move of hiring a Black Ops Team*. The last is defined as "a covert, disruptive operation that is clandestine and not attributable to the organization carrying it out" that may be created for the sake of existing corporation's disrupting itself, i.e. establishing a startup to attack the current business. The succeeding members in such a team may be described as young, digitally native, and self-starting millennials, open to communication with the external community. The best HRM practice here requires the simultaneous hiring of two competing, internal and external Black Ops teams with the preliminary set goal of struggling one other and disrupting the core business of the existing company (Ismail, Malone, van Geest and Diamandis, 2014).

- o *The strategic move of coping Google[X],* i.e. establishing an internal accelerating technologies lab with respective staff by the existing company, leveraging core competencies and aiming at moonshot innovational ideas (e.g., life extension, autonomous vehicles, Google Glass, smart contact lenses, Project Loon, etc.) at a budget price (Ismail, Malone, van Geest and Diamandis, 2014).

- The last presented strategy is labeled as "e*xponential organization lite (the gentle cycle)". It means adoption of some of the exponential characteristics by exisiting companies, but in a moderate way* (Ismail, Malone, van Geest and Diamandis, 2014). The HRM sphere here is emphasized in the following ways:

  - o *Initiating the establishment process of an official desired culture by diverging from traditional company documents as mission and vision to formulation of a massive transformative purpose*. The last is expected to be transposed for each position in the respective exponential company or for the members of each of its constituencies.

  - o *Community & Crowd.* The efforts here are oriented to developing a social business with vibrand constituencies, cooperating in the sharing economy or with peer-to-peer startups to increase the internal organizational innovation capacity, and applying of P2P forums to decrease related support costs.

  - o *Engagement.* It may be achieved by diverse HRM tools as creation of games, contests and incentive competitions, votings for managers, organized by the big companies for their constituencies.

  - o *Dashboards* – ensure that decision-making processes in companies are based predominantly on data rather than on managerial intuition, presenting complex information simply and cogently, accelerating the learning processes (even introducing a new measure: return on learning) in the company and shortening the feedback loop cycle by means of objectives and key results.

  - o *Experimentation.* The contemporary compensation system in large business organizations should incorporate risk awards (i.e. number of experiments, undertaken by each unit, percent of the successful experiments, "failure awards" in some cases) and experiment tracking as a part of the implemented employee recognition process.

  - o *Social technologies*, used for strengthening internal and external business communictions and data sharing.

Another approach that is used by Ismail, Malone, van Geest and Diamandis (2014) for the purpose of identifying prescribed HRM attributes in exponential business environment, represents the attempt to constite the image of the exponential executive in this organizational sphere. Here, the HR executive's work is disclosed through the lens of promising technologies in relation with their (potential) application in the HRM sphere, providing deep insights into the workforce, i.e.:

- Biotechnology → generating employee DNA profiles, i.e. pursuing high suitability for the job based on particular hormones, neurotransmitters and health risks.

- Neurotechnology → employee neuroprofiles, based on the right attitude, emotions, focus, truth-telling, passion, and avoiding cognitive bias.

- Sensors and Big Data → the quantified employee (teams), i.e. perfroming employee and team health monitoring, resulting in actionable insights based on body health (fatigue, concentration, movement, rest and relaxation). In this way employee mistakes may be avoided, stress, productivity loss and burnout rates may be lowered. Potential minimization of employee health risks, resistance to flu, etc. may be realized through the use of employee DNA, biome and biomarkers.

- Virtual reality → full digitalization of certain HRM processes (recruitment techniques, collaboration and employee development).

Based on their applications in exponential companies, several important results (practices, criteria, methods, etc.), technologies, providing vendors (up to the publication date of the book) and related opportunities for the HRM sphere are reported to have emerged or to be in a process of becoming (Ismail, Malone, van Geest and Diamandis, 2014, chapter ten). Some of them are described here, as follows:

- Generating the profile of the most successful employees (after the example of Google company), i.e.: (a) young people who have experienced a big loss in their lives, able to transform that unpleasant experience into (personal and professional) growth, (b) humble and open to listening and learning, nurturing the highest rate of (un)learning and adapting to diverse situations, (c) possessing and continuously upgrading high-profile social networking skills, (d) people who demonstrate strong ability to ask the right questions, (e) humans with high potential, tracked by demonstrations of intrinsic motivation, great match with the enacted organizational massive transformative purpose, engagement, determination, curiosity, insight and risk literacy (skill in statistics), (f) humans, oriented to perfecting their wellness, resilience and other core life skills.

- Implementing HR policies that cultivate a firm's internal milieu, characterized by incessant demonstrations of deep respect to posing questions, outlining diverse perspectives, art and culture.

- Highly appraised employee selection criteria incorporate internships, testing of real life skills, conducting digital job interviews and meetings by using video, telepresence and virtual reality, determining higher weight to employee potential in comparison to proven professional experience and acquired educational degrees during the selection process, DNA/neuro recruitment and team formation (by the use of artificial intelligence), P2P reputation systems (internal ones and external ones, measured by respective communities),

- Training and development practices, emphasizing: (a) peer learning and coaching for disseminating and creating knowledge and transferring skills in better ways between the employees without hiring the respective training staff, thus increasing the cost-effectiveness of the HRM, (b) measuring/ tracking personal development

dashboards (i.e. objectives and key results, serendipity or learning key performance indicators, performance appraisals, etc.) and the personal alignment to the pursued massive transformative purpose by the business organization.

▪ Employee performance appraisal, supplied by personal development dashboards and using Big Data, leveraged to identify anomalies, including outlier ratings by colleagues.

▪ Enhancing employee performance by means of neuroenhancement (a neurotechnology, sensors), i.e. improving mood, employee capabilities (accelerated learning, focus, reading, sleep, mental state, avoiding cognitive bias) and struggling against social phobias (nervousness and fear of contact or connection).

▪ Most of these practices may be applied not only to formal team members, but also to staff on demand, and community and crowd.

The perspective of organizational adaptability, viewed as "a higher order competitive advantage" discloses other facets of HRM, applied in exponential organizations (Ismail, Malone, van Geest and Diamandis, 2014), i.e.: (a) two HRM-related, external attributes of the exponential organizations (Staff on demand, Community and crowd, p.213) are described as main drivers of adaptability, although all exponential attributes are defined as "keys" to adaptation (p.188), (b) the widespread use of "Fluid legal contracts" that are intended to take into account the continuous flows of emerging new data, statisitcs and insight up to target moments and are considered as more advanced in comparison to the so-called "SCRUM contracts" (p.223), (c) putting an emphasis on candidate's potential as a trigger of his adaptability that may demonstrated on the job in the future (p.225), (d) a personality trait of the successful exponential leader (p.167), (e) target characteristics of desired company culture, forming in response to emerging, rapid and radical changes (p.156), (f) the underperformance in this sub-sphere is defined as an important reason to fail after acquisition of a company or a merger between two entities (p.153), (g) managers'orientation to "adaptability and agility will eclipse" their traditional reliance on "size … scale" and efficiency in concern with exponential organizations and humans related to them (p.84, 106), (h) Charles Darwin's theory of species adaptation is applied as a justification for the creation of small core team in the exponential organization (p.88).

Conclusion

In the new high-technologized exponential business world the importance of HRM increases, because its impact is now directed not only to constituencies inside the organization, but also to stakeholders outside it. Most of the inside oriented HRM initiatives, undertaken in exponential organizations, aim at strengthening employee teamwork, collaboration, communications and motivation. Furthermore, it is evident that new constituencies outside the organization appear (i.e. fans, crowd), some acquire civilizational statute through electronic platforms, and others are deeply and creatively restructured for the sake of the success for the exponential organization. For this reason

the HRM practices in the exponential organizations were reviewed and critically analyzed through diverse perspectives as organizational size and history, the image of the exponential HR executive and the organizational adaptability. No matter the incoming newness within the exponential HRM, it may be concluded that it cannot be associated with labor exploitation, although many emerging relationships among constituencies still need appropriate regulations in order to maximize potential contributions, and adapt (elaborate or simplify) to business environment conditions in the future.

REFERENCES

1. Armstrong, M. 2006. A handbook of human resource management practice, 10th edition, London: Kogan Page, pp.29-52.

2. Arthur M., Rousseau D. 1996. The boundariless career: A new employment principle for a new organizational era, New York: Oxford University Press.

3. Bondarouk, T., van der Heijden, B., 2009. "E-HRM Effectiveness in a Public Sector Organization: A Multi-Stakeholder perspective". International Journal of Human Resource, 20(3), p.578–590.

4. Boxall, P. F. 1996. The strategic HRM debate and the resource-based view of the firm, Human Resource Management Journal, 6 (3), pp 59–75, available at: http://dx.doi.org/10.1111/j.1748-8583.1996.tb00412.x

5. Delery, J. E., Doty, D. H. 1996. Modes of theorizing in strategic human resource management: Tests of universalistic, contingency, and configurational performance predictions, Academy of Management Journal, issue 39, pp.802-835, available at: http://web.b.ebscohost.com/ehost/pdfviewer/pdfviewer?vid=6&sid=c7bce998-1d35-46b5-b062-6fde7f23bb42%40pdc-v-sessmgr06, accessed on: 20.08.2019.

6. Diamandis, P., Kotler, S. 2012. Abundance: The Future Is Better Than You Think. Free Press.

7. Dimitrov, K. 2018. Cultural aspects of talent management in business organizations, Conference proceedings "Challenges to industrial groth in Bulgaria", 12-14 October, 13 pages, available at: https://www.researchgate.net/publication/330598298_Kulturalni_aspekti_na_upravlenieto_na_talanta_v_biznes_organizaciite, accessed on: 25.08.2019. (in Bulgarian)

8. Dimitrov, K. 2016. Talent management – an important factor in sustainable development of the contemporary business organizations, Conference proceedings, "Economic

challenges: growth, disbalance, sustainable development", Publishing complex – UNWE, pp.349-360, ISBN 978-954-644-834-7. (in Bulgarian)

9. Dimitrov, K. 2015a. Talent management – an etymological study, "Vanguard scientific instruments in management" journal (VSIM), Volume 2(11), 39 pages, ISSN 1314-0582, issued in December by the University of National And World Economy, Department Of Management & Bulgarian Academic Simulation And Gaming Association, Friday Night Seminar Club, available at: https://vsim-journal.info/index.php?journal=vsim&page=article&op=view&path%5B%5D=45

10. Dimitrov, K. 2015b. Cultural aspects in electronization of human resource management activities in business organizations, Conference proceedings „Legislation and execution issues, associated with business development in republic of Bulgaria and Europe", Vol.2, pp. 40-46, Publishing complex – UNWE, ISBN 978-954-644-739-5 (in Bulgarian)

11. Dimitrov, K. 2006. Human resource management in privatized in industrial enterprises, an Autoreference to a Ph.D dissertation, Sofia: Publishing house "Stopanstvo" (in Bulgarian)

12. Dimitrov, K., Ivanov. I., Geshkov, M. 2018. Professed firm culture in the virtual realm – tendencies and challenges, Sofia: Publishin complex – UNWE, p.72. (in Bulgarian)

13. Dunn S. 1990. Root metaphor in the old and new industrial relations, British Journal of Industrial Relations, 28, 1, pp1-31, Ebsco.

14. Ferris G., Hochwarter W., Buckley M. R., Harrel-Cook G., Frink D. 1999. Human resources management: Some new directions, Journal of management, May 01, EbscoHost.

15. Hammer M., Champy J. 1993. Re-engineering the corporation: A manifesto for business revolution, New York: HarperCollins.

16. Iles, P., Zhang, C. (editors) 2013. International Human Resource Management: A Cross-cultural and Comparative Approach, Chartered Institute of Personnel and Development, London: CIPD House.

17. Ismail, S., Malone, M., van Geest, Y., Diamandis, P. 2014. Exponential organizations. Why new organizations are ten times better, faster, and cheaper than yours (and what to do about it), New York, Diversion books, ISBN: 978-1-62681-358-8.

18. Keenoy T. 1999. HRM as hologram: A polemic, Journal of Management Studies, Volume 36, Issue 1, January, pp1-23, available at: http://web.b.ebscohost.com/ehost/pdfviewer/pdfviewer?vid=4&sid=c7bce998-1d35-46b5-b062-6fde7f23bb42%40pdc-v-sessmgr06, DOI: 10.1111/1467-6486.00123

19. Keenoy T. 1997. Review article: HRMism and the languages of re-presentation, Journal of Management Studies, 1997, 34, 5, pp.825-841, EBSCO.

20. Merchant, N. 2012. 11 Rules for Creating Value In the #SocialEra. CreateSpace Independent Publishing in Ismail, S., Malone, M., van Geest, Y., Diamandis, P. 2014. Exponential organizations. Why new organizations are ten times better, faster, and cheaper than yours (and what to do about it), New York, Diversion books, ISBN: 978-1-62681-358-8.

21. MTD Trainig, Bookboon 2017. Emotional intelligence, 1st edition, ISBN: 978-87-7681-600-1.

22. Paunov, M. 2012. Strategies of business, Sofia: Publishing complex – UNWE. (in Bulgarian)

23. Peters, T. J., Waterman, R. H., Jr. 1982. In search of excellence. New York: HarperCollins, p.186.

24. Price A. 2007. Human Resource Management in a Business Context 3rd Edition, London: Thomson Learning.

25. Rachman, D., Mescon, M., Bovee, C., Thill, J. 2001. Business today, 10th Edition, Prentice Hall.

26. Ries, E. 2011. The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses, Viking in Ismail, S., Malone, M., van Geest, Y., Diamandis, P. 2014. Exponential organizations. Why new organizations are ten times better, faster, and cheaper than yours (and what to do about it), New York, Diversion books, ISBN: 978-1-62681-358-8.

27. Robertson, B. 2015. Holacracy: the new management system for a rapidly changing world, 1st edition, New York: Henry Holt and Company.

28. Schein, E., Schein, P. 2017. Organizational culture and leadership, 5th edition, Hoboken, New Jersey, Wiley.

29. Schuler R., Jackson S. 1987. Linking competitive strategies and human resource management practices, Academy of Management Executive, issue 1, pp 202-219, Ebsco.

30. Shopov, D. 1999. Industrial relations, Publishing house "Trakia-M". (in Bulgarian)

31. Storey J. 1995. Human resource management: Still marching on, or marching out?, in Storey J., Human resource management. A critical text, London: Routledge.

32. Tricker, B. 2015. Corporate Governance: Principles, Policies, and Practices, 3d edition, Oxford: Oxford university press.

33. Ulrich D. 1998. A new mandate for human resources, Harvard Business Review, January/February, pp. pp124-134.

34. Ulrich, D., Allen, J., Brockbank, W., Younger, J., Nyman, M. 2009. HR transformation Transformation. Building Human Resources from the Outside In, New York: The McGraw-Hill Companies, Inc.

35. Wong, Z., 2007. Human Factors in Project Management. Concepts, tools, and techniques for inspiring teamwork and motivation, San Francisco: Jossey-Bass, A Wiley Imprint.

36. Zlatev, V. 1999. Management without boundaries, Sofia: Publishing house "Stopanstvo". (in Bulgarian)

37. *** 2019. *National Cash Register Company*, a firm's website, available at: http://www.ncr.com/history/history/htm, accessed on: 20.08.2019.

38. *** 1994a. Support for an old-fashioned view, The Independent newspaper, 12th of May.

39. *** 1994b. Dictionary of economics, Routledge.

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